

CALIFORNIA PITCH CANKER TASK FORCE

MINUTES

February 9, 2004

University of California at Davis

Richard Hawley, Greenspace – The Cambria Land Trust
Joan Dunlap, USFS – Placerville
Wally Mark, Cal Poly
John Kliejunas, USDA – FS
Annette Delfino-Mix, USFS, IFG
Detlev Vogler, USDA-FS, PSW, IFG
Tom Gordon, UC Davis
Mike Branson, City of Carmel
Bill Werner, CA Association of Nurseries
Dave Wood, University of CA, Berkeley
Nadir Erbilgin, University of CA, Berkeley
Scott Johnson, CA Forest Pest Council
Rob Cain, City of Davis
Sharon Kirkpatrick, UC Davis
Brenna Aegerter, UC Davis
Chris Friel, UC Davis
Valerie Hipkins, USFS – NFGEL
Steve Staub, Del Monte Forest Foundation
Paul Violett, NSTIA
Don Pierce, W.M. Beaty & Association
Glenn Flamick,
Susan Frankel, USDA-FS
Deborah Parker, Greenspace – The Cambria Land Trust

Chairman Steve Staub asked the participants at the meeting to introduce themselves.

Minutes

Mike Branson moved to approve the minutes of September 11, 2003. Detlev Vogler seconded the motion which passed unanimously.

Administrative Services Contract

Treasurer Wally Mark informed the Task Force that the balance of the PCTF account was currently \$20,700. Richard Hawley of Greenspace – The Cambria Land Trust made a proposal to continue the administrative services that have been provided to the Task Force. He stated that Greenspace was willing to do all of the meeting preparation, minutes of the meeting and follow-up for \$1,100. Additional services between meetings, such as preparation for a continuing education program, for \$25.00 per meeting.

Scott Johnson, Chair of the California Forest Pest Council, endorsed the proposal stating that he had been impressed with the product that has been provided through the years of Greenspace's performance.

Wally Mark moved that the Pitch Canker Task Force accept the Greenspace for one year. Mike Branson seconded the motion.

Susan Frankel stated that she felt that the charge for the contract was too high. She did not feel the benefit to the Task Force was commensurate with the cost. Ms Frankel noted that in the past they paid \$50 per meeting for the minutes.

Chairman Staub stated that he thought the charge was reasonable because of the amount of work that Greenspace puts into the job. He suggested the Task Force could compensate Greenspace for this meeting and as soon as possible in the next six months Ms Frankel could investigate other alternatives. Mr. Staub asked if Mr. Mark would

like to amend his motion to incorporate this new arrangement and Mr. Mark did not want to amend the motion. Mr. Mark wanted to be sure that there was someone who would set up the next meeting at Swanton Pacific.

Richard Hawley said that he understood where Ms Frankel was coming from, but she would have to find someone else who would travel, would get per diem amount, and also arrange for things for the next meeting. Scott Johnson added that he understood Susan's point. He noted, however, that anyone else that she might recruit would have other jobs for which they were responsible. He suggested that the Task Force vote to approve the motion Wally made, understanding that during the year of the contract Susan could explore alternatives for next year. He added that the Task Force has the money, noting that the PCTF has more money than the Forest Pest Council. Mr. Johnson said that if the Task Force is satisfied with the work product provided by Greenspace, he would recommend approving the contract. He added that someone would have to be paying the salary of anyone contracted to perform this service, even if it is a government employee. He stated that furthering the educational goals of the Forest Pest Council and the Task Force by a non-profit organization it is a good thing. While it could be added in the Agreement that the contract could be voided with 30 days notice, he advised that the Task Force accept the year contract and during that time investigate other options.

Steve Staub suggested that the motion be amended to include a clause that the contract can be void by notice of the Executive Committee. Mr. Mark agreed to amend the motion, Mr. Branson seconded the new motion and it was carried unanimously.

DAVIS RESEARCH PRESENTATIONS

Dr. Tom Gordon introduced the Annual U. C. Davis Research Presentation Meeting. He noted that scheduling the meeting at this time of the year was much better for his staff and students and hoped that the Task Force would agree to this time in the future. Dr. Gordon thanked the Task Force for its support of his Department's research on pitch canker.

Det Vogler

Pitch Canker in New Places

Dr. Det Volger reported on the discovery of pitch canker in El Dorado County Douglas fir on November 12, 2003.

Task Force discussion regarding the response to this new information was delayed to the end of the meeting.

Sharon Kirkpatrick

Provenance Study – Susceptibility of Conifers to Pitch Canker

Pitch canker is known to have a wide host range in the pine genus, which includes many species native to California; Douglas fir is also susceptible. Little is known about the relative susceptibility of many of these species, and for this reason, a provenance study was conducted. The following species have been tested: Douglas fir, knobcone pine, ponderosa pine and Torrey pine. Sugar pine and Gray pine will be tested at a later date. In the case of Douglas fir, nearly all seedlings, from the eight provenances tested (188 trees) were only mildly susceptible. Only four seedlings sustained lesions longer than 15 mm. Knobcone pines were much more variable, with most of the 137 seedlings tested being highly susceptible. For ponderosa pine, 225 seedlings were tested, and of these most were relatively resistant, but about 30% had lesions longer than 15 mm. Most Torrey pine seedlings appeared resistant; overall this species should be considered more susceptible than Douglas fir but less so than ponderosa pine.

Dave Wood

Twig Beetles, *Pityophthorus* spp. (Coleoptera: Scolytidae), as Vectors of the Pitch Canker Pathogen in California

Andrew J. Storer, David L. Wood and Thomas R. Gordon

Twig beetles in the genus *Pityophthorus* (Coleoptera: Scolytidae) are known to be associated with the pitch canker pathogen, *Fusarium circinatum* in California. Phoresy of the pathogen on these species has been reported when insects are emerged from diseased branches, and when they infest disease-free, cut branch tips. In order to demonstrate that twig beetles can vector the pathogen, studies of phoresy and transmission were conducted in a native Monterey pine, *Pinus*

radiata, forest. Phoresy was confirmed for both *P. setosus* and *P. carmeli*, and *P. setosus* was demonstrated to vector the pitch canker pathogen when contaminated with fungal spores and caged onto Monterey pine branches. When attractive baits were used to increase visitation to Monterey pines by *P. setosus*, baited trees were more likely to develop pitch canker than unbaited trees even though the beetles did not tunnel into the host to develop egg galleries. Therefore twig beetles are competent as vectors of the pitch canker pathogen, and their vectoring activity, though requiring a wound, does not require that they establish egg galleries in the host.

Updating Integrated Pest Management Systems for Pitch Canker: Known and Potential Insect Vectors

Nadir Erbilgin, Andrew J. Storer, David L. Wood, Thomas R. Gordon

Pitch canker is a disease of pines and other conifers in California that is caused by an exotic fungal pathogen. A number of species of twig, bark and cone beetles are known to be vectors of this pathogen. Determining the vector efficiencies of these species will be important in development of existing pitch canker infestations, and in the potential establishment of new infestations. We have initiated a study to refine integrated pest management strategies for pitch canker by determining the relative importance of each of the known insect vectors of *Fusarium circinatum* and to refine integrated pest management strategies for pitch canker by determining the risk that wood infesting insects carry the pathogen. Our study sites are located in Central and Coastal California. We set up traps baited with ethanol and alpha-pinene and monitored them from May to November in 2003. Bark beetles, primarily *Ips mexicanus* and *Gnathotrichus retusus* made up majority of trap catch. In addition we caught *Lasconotus complex* and few species of Cerambycids. We are currently in process of determining natural propagule load of these insects in the laboratory.

Nadir Erbilgin

Colonization of Cut Branches of Five Coniferous Hosts of The Pitch Canker Fungus (*Fusarium circinatum*) by *Pityophthorus* spp. (Coleoptera: Scolytidae) in Central, Coastal California, Andrew J. Storer, David L. Wood, Thomas R. Gordon and Nadir Erbilgin

Pitch canker is a disease of pine trees that is caused by the fungus *Fusarium circinatum*. In California, pitch canker infections occur largely as a result of the activities of insects serving as vectors of the pathogen or wounding agents of trees resulting in infection of those wounds by the pathogen. The fungus has been isolated from a number of bark beetle species. Among them twig beetles (*Pityophthorus* spp.), engraver beetles (*Ips* spp.), a cone beetle (*Conophthorus radiata*). We initiated field experiments to determine if twig beetles, *Pityophthorus* spp., can vector *F. circinatum* from infected Monterey pines to Bishop, ponderosa, and knobcone pines and Douglas-fir, all of which are hosts of *F. circinatum*. Our study sites were located in Central and Coastal California. Our treatments consisted of 10 healthy branch tips (50-60 cm long) cut from Monterey, Bishop, ponderosa and knobcone pines and Douglas-firs and attached them to the lower canopy of these conifer species. For each site, branches cut from each pair of tree species were placed on both heterospecific and conspecific host trees; thus each experiment consisted of 2 tree species and 4 treatments. Each experiment was repeated once every year from 2001 to 2003. After about 10 weeks, branches were brought to the laboratory, and placed into rearing tubes at room temperature and 24 h light. Emerging insects were collected, sorted, counted, identified to species, and placed on a pitch canker selective medium. Tips of all five host trees were inoculated with *F. circinatum* to determine susceptibility of trees to the pitch canker pathogen. A total of 2413 beetles emerged from infested branches put in rearing tubes.

Pityophthorus spp. made up 93% of total catch. The remaining 7% was Deathwatch beetles (*Ernobius punctulatus*) (Col: Anobiidae). Among *Pityophthorus* spp., *P. setosus* (66.4%) and *P. nitidulus* (23.1 %), *P. carmeli* (6.7%) were the most abundant species emerged. Monterey (60.1% of branches), Bishop (90 %) and ponderosa pines (61.7 %) were heavily infested by *Pityophthorus* spp. Infestations on Douglas-fir (26.7 %) and Knobcone pine (23.3%) were relatively low. We found statistical differences on the mean number of *Pityophthorus* spp. emerged between Monterey branch tips placed on Monterey trees and Monterey branch tips placed on Bishop pines. The similar trend was observed in Monterey-ponderosa pine experiment. Monterey branch tips placed on Monterey trees were significantly more attractive to Monterey branch tips placed on ponderosa trees. Emergence from other branch species was similar. We did not isolate the pitch canker propagules of progeny emerging from cut branches. Mean lesion length resulting from inoculations on branches of 5 host species varied only between Monterey and ponderosa pines and Monterey pine and Douglas-fir, in each case Monterey pine had longer lesion length than the other host species. *Pityophthorus* species composition and abundance and lesion length may explain the low incidence of *F. circinatum* on ponderosa and knobcone pines and Douglas-firs in these study sites.

Brenna Aegerter

The Seedling Phase of Pitch Canker

Spores of *Fusarium circinatum* can survive in both loam and sandy soils, but their numbers decline steadily over time. In both cases, initially large populations were either not detectable or were present only at very low levels after 24 weeks. Experiments were conducted in a sandy soil to determine how different population levels of the pathogen would affect seedling mortality. Greater than 90% of the seedlings died at the three highest levels (1000, 10,000 and 100,000 spores/gram), whereas smaller but still substantial numbers died at 100 spores/gram. Separate experiments have been conducted to evaluate the potential for genetic resistance to be expressed at the seedling stage. Using 130 Monterey pine families, which differed in susceptibility based on a branch inoculation test, we found no differences in the frequency of seedling mortality. Initially for these experiments, seedlings were challenged by applying spores to seeds, prior to planting. In follow-up experiments, clean seed was allowed to emerge through pine duff naturally infested with the pathogen. Similar results were obtained in this case, indicating that genetic resistance that is efficacious in older trees, is not operative in the seedling stage.

Tom Gordon

Summary of Research on Variation in Monterey Pine on the Monterey Peninsula

To determine if the Monterey population of Monterey pine is composed of distinct sub-populations, trees were examined on each of ten geomorphic surfaces that support stands of this species. A minimum of twenty trees on each surface was characterized by morphological criteria and seed was collected from each tree. Seed from a total of 240 trees was planted in each of five different common gardens on the Monterey Peninsula and at one location on the U.C. Davis campus. Based on a comparison of parent trees (those from which seed was collected), stands on different geomorphic surfaces could be differentiated by numerous morphological criteria including: cone width and length, needle length and stomatal density. However, when adjacent stands on different geomorphic surfaces were compared, they were not significantly different in any morphological attribute. On the other hand, spatially separated trees on the same geomorphic surface were, in some cases, morphologically distinct. Common garden studies showed no significant difference in growth that could be attributed to the geomorphic surface of origin. Significant differences in establishment (measured as the proportion of planting sites at which a seedling tree was present after three years) were detected. However, seed that originated on the geomorphic surface where the common garden was located did not have an advantage relative to seed from other surfaces. In conclusion, the results of this study document variation within the Monterey population of Monterey pine, but do not show a significant association between this variation and geomorphic surfaces. It is likely that sub-division within the Monterey population reflects limitations on gene flow between spatially separated stands, rather than a selective influence of edaphic factors associated with different geomorphic surfaces.

Lunch

Valerie Hipkins

Genetic Diversity in Monterey Pine (*Pinus radiata*) on California Highway 1 near Carmel, Monterey County

A genetic study was used to determine the origins of Monterey Pine populations in Hatton Canyon and planted stands along Highway 1 in Monterey County near Carmel. Samples for genetic analysis were comprised of seed from 254 trees from natural and planted stands. Seeds were genotyped following the USDA Forest Service, National Forest Genetics Laboratory (NFGEL) Standard Operating Procedures. Samples were genotyped at 30 isozyme loci. Results show that sampled Monterey Pine stands exhibited moderately low genetic variation. Overall, the genetic variation detected in this study was comparable to that found in previous Monterey Pine isozyme studies, except that our Cambria sample had fewer polymorphic loci and fewer alleles per locus. Allele frequency differences at five loci were most important in distinguishing the Año Nuevo, Cambria, and Monterey populations. These differences plus the overall pattern of genetic identity provided a basis for assessing the origin of the planted CalTrans stands and the Hatton Canyon population. Genetic data indicate that over half of the planted CalTrans trees of Monterey Pine along Highway 1 near Carmel apparently did originate from the natural Monterey population. However, some of the trees did not originate from the Monterey population. Trees that show strong genetic similarity to Año Nuevo and Cambria also make up a portion of the CalTrans stands. The Hatton Canyon stands have isozyme frequencies similar to those of the Monterey area population. However, the Hatton Canyon stands did exhibit two unique alleles, both at low frequency.

John Church

Comparison of the Temperature Responses of *Fusarium circinatum*, Monterey Pine and other Tree Species

The research presented was a continuation from Janet Beale's microcalorimetry measurements of the temperature response of Monterey Pine metabolism. Experiments have been conducted on the temperature response of metabolism of *Fusarium circinatum* and other species. The work is based on a growth model applied to the ATP (Kreb's) cycle. CO₂ and heat production were measured over a temperature range of 0C to 40C (32F to 104F). The temperatures of peak CO₂ production rates were used to show differences between species. Temperature of peak CO₂ production rate indicates a transition from moderate to intense stress. Species are best adapted to temperatures lower than the temperature of peak CO₂ production.

The temperature of peak CO₂ production for *F. circinatum* was approximately 28C (82F) which was higher than the mean value for Monterey Pine 25C (77F), but lower than representative values for species that have not been shown to be susceptible in their native ranges, ponderosa pine 30C (86F), white fir 35C (95F), red fir 40C (104F), and redwood 30C (86F). The data indicates that *F. circinatum* may be adapted to temperatures that are high enough to stress Monterey Pine but do not stress ponderosa pine, white fir, red fir, and redwood, thus making Monterey Pine the more vulnerable species to Pitch Canker.

Research Questions to be Studied

1. Are Monterey Pine more vulnerable to *F. circinatum* at higher temperatures, above 26C (79F), when the tree is under increased temperature stress?
2. Are Monterey Pine more vulnerable to *F. circinatum* later in the elongation season when the tree is under increased moisture & temperature stress? The fungus may be metabolizing at greater rates and drawing larger amounts of moisture from the tree.
3. Are Monterey Pine with metabolism adapted to higher temperatures and living on sites that have soil moisture under higher temperature conditions more resistant to *F. circinatum* than Monterey Pine with metabolisms adapted to lower temperatures?
4. Are Monterey Pine more vulnerable some years due to reduced precipitation or unfavorable temperature conditions.?
5. Is the temperature response of *F. circinatum* respiration better adapted to the more moderate coastal climate than to the more severe inland climate?

Additional work to be done

1. Measure temperature response of *F. circinatum* cultured at 26C(79F) and 18C(64F)
2. Measure *F. circinatum* high temperature stress response at 25C (77F), 30C (86F), 35C (95F), 40C (104F).

Chris Friel

Effects of resin on *Fusarium circinatum*

Xylem resin has been shown to endow pines with a two-pronged defensive strategy against pest invasion by responding to injury with a pressurized-physical barrier fortified with an atmosphere saturated by volatile, antimicrobial terpenoid compounds. Previously, we have demonstrated that a saturated atmosphere of some monoterpenes, namely β -pinene and limonene, greatly reduces radial growth of the pitch canker pathogen. Furthermore, these monoterpenes have dramatic differential effects on fungi of varying virulence; the growth rate of a virulent fungal strain was reduced whereas a fungus that was avirulent on pine was killed by an environment saturated with one of the monoterpenes. The relationship between pathogen virulence and growth inhibition by the volatile components of xylem resin was further tested by challenging pathogenic fungal isolates ranging in virulence with a saturated atmosphere of monoterpenes. The growth of all the isolates was inhibited by the volatiles, however no correlation exists between the magnitude of virulence and inhibition of growth by monoterpenes. A monoterpene-saturated atmosphere exhibits a similar effect on spore germination, although a final evaluation of any correlative effect requires further experimental replication.

Discussion of Recent Pitch Canker Discovery in El Dorado County

Steve Staub led the Task Force back to the topic of the current news, what an appropriate Task Force response would be, and how it will be reported to the California Pest Council and the Board of Forestry. The Task Force will be reporting to the Forest Counsel in early March. He stated that a few members of the Task Force were discussing the fact that it is important to take some action at the facility. He stated that the Task Force members agreed there should be limited action, because the trees are valuable to their owners. He suggested that the two reported trees and the adjacent trees be removed and burned. The orchard should not be damaged unnecessarily, but eradication of the two trees and adjacent trees should be done at a minimum in order to appear responsible. Additionally, a monitoring program needs to be put in place for El Dorado County to determine if the problem is more widely distributed than is currently suspected. Mr. Staub also noted that it would be wise to have a plan before going to the media.

Det Vogler stated that would be best if the land manager took the lead in this. However, when the land manager asks the advice of the PCTF, the Task Force should be prepared with a well thought-out series of alternatives. Bill Werner suggested that more extensive samples should be taken before removing anything. Dr. Vogler noted that samples could be taken upon removal, however Mr. Werner said that he was thinking of a less destructive method.

Dr. Vogler said that there was not money available to deal with this. The problem has many components, including research, management and national forest issues. The PCTF should note the findings, state the various responses available for the problem and give their recommendations on what they feel should be done. The Task Force must balance the desire to learn from this new infestation against the desire to do something about it.

Steve Staub asked Dr. Volger if he was in the process of creating an approach. Dr. Volger replied that he is actually ending his involvement in the project. He stated that they are not funded for this and, therefore, must come to a resolution of their involvement.

Scott Johnson noted that there are two parallel issues to deal with, the research and management of the land and the political response. The Task Force discussed the funding of these projects.

Dr. Volger noted that some talking points have been sent to regional forestry and that they think it is in their best interest to act. Dr. Wood noted that a first step needs to be determined by the Task Force that meets with the technical expertise. The Task Force could then make a recommendation to go forward with that step. The destruction of the two trees would be a good precaution, but Dr. Wood did not know how many trees around those initial trees were necessary to remove. Steve Staub noted that if the technical people determined that additional trees needed to be removed, cuttings could be taken from the trees in order to maintain their genetic information. Dr. Volger stated that he couldn't see anything that would be gained by destroying the trees except making people feel good. Susan Frankel said that if, in five years, there is a pattern of pitch canker breaking out upwind of this orchard, it would have been good if the Task Force could point to something that was done to prevent it. Dr. Volger noted that it is the dead of winter right now and didn't see any reason to initiate any action immediately.

Richard Hawley stated that there was a lot of politics in this discussion. He added that when pitch canker was first found at New Brighton State Beach, the decision was not to do anything immediately. Dr. Wood reminded Mr. Hawley that there was a lot of discussion of eradication at that time. Steve Staub added that an initial infection is a single point in time and eradication has to happen at that time if there is a prayer to stop it.

Dr. Volger stated that the Task Force needs to have a parallel plan to collect information as quickly as possible. Richard Hawley noted that the Task Force knows that it will not be able to eradicate the infection. Don Owens noted that it never was in Douglas fir, and this probably is not the original infection. Dr. Volger stated that we need the degree of care that the New Zealand people used. If they were not so careful, no one would have ever heard of the infestation.

Steve Staub noted that the Task Force needs to develop talking points and a one page informational sheet. He noted that the Task Force needs good communication between the responsible forest service staff. Dr. Volger stated that he is writing a short report for submission this week. He said that the next paper needs to deal with the implications. Dr. Volger thought that a letter to an editor might work, where the whole range of information could be commented upon. This could deal some of the misgivings that might occur.

Susan Frankel stated that the Task Force should think about the cost of cutting down these trees and an analysis of the value of the trees versus the potential threat they pose. Don Owens added that this group has promoted stopping the spread of pitch canker. If there is a potential to eradicate it at a particular location, the Task Force has

the right to say that they feel that this is the way to approach an isolated find. However, as a political issue, the Task Force cannot force anyone to do anything. Dr. Volger stated that the Task Force has a responsibility to express the consequences that would ensue. He stated that we don't know that there is pitch canker in those trees right now. Ms Frankel said that the Task Force knows that pitch canker can be in trees with latent infection and that pruning is not an effective means of eradication. Dr. Wood noted that pitch canker can occur as an asymptomatic condition in trees. He stated that it has been known for a long time that pitch canker can occur in Douglas fir.

Scott Johnson stated that the Regional Forester may take this over and make the decision regarding this issue. He added that what he wants from the Task Force is a fact sheet to give to the Board of Forestry. Also, the Regional Forester may ask the Pitch Canker Task Force for an opinion on the matter. The Task Force needs to give them a scientific opinion and alternatives, and could perhaps add a minority opinion. The point is that the PCTF should be prepared to be consulted on this issue.

Det Volger stated that since the discovery was on Forest Service property, the Task Force should wait until they are asked for their response. Wally Mark said that it is irrelevant that it is on Forest Service property; it is only relevant that El Dorado County is a new area. The PCTF can make a recommendation, but the Task Force cannot force anyone to do anything. This could just as easily have been discovered at a Christmas tree plantation. Det Volger noted that the group that first knew about the discovery thought it would not end up to be pitch canker. This led to a two-month process to determine that it was this disease.

Dr. Volger wondered what else could be done by the Task Force at this point. Steve Staub stated that the Task Force needs to have some decision points. Susan Frankel stated that ideally she would like to see the Forest Service working hand in hand with the Task Force to deal with the issues. Det Volger asked if there has to be a recommendation for action. He stated that eradication is just one of the choices that should be considered. Dr. Volger stated that the Task Force should present an opinion about the kind of things that need to be done. He added that right now there was an absence of all the facts.

Chairman Staub stated that he would like to create a subcommittee because he did not think a coherent statement could be crafted at the meeting. Glenn Flamick added that the Task Force could state the basics regarding what needs to be done. It was noted that there needs to be more testing to discover if it is an isolated event or if it is throughout the orchard. Mr. Flamick added that the Task Force could come up with five or six things that they would recommend.

Richard Hawley said that a press release should be written and placed on the Task Force website that would piggyback on the Forest Service press release. Susan Frankel stated that they don't want the Forest Service to be in one corner and the Task Force to be in another. The Forest Service is expected to draft the press release.

Scott Johnson recommended that all inquiries be directed to Tom Gordon or Det Volger. He noted that they should be the only spokespersons for this issue; and if the public approaches anyone else on the Task Force, they should refer the questions to Dr. Gordon and Dr. Volger.

Susan Frankel recommend that the Task Force contact John Cayunous and inform him that that we discussed this issue today and that we strongly recommend that he remove the two trees immediately. Dr. Wood stated that he thought a more generalized response was in order. Dr. Volger said that the Task Force should write a paragraph today that would lay out the range of recommendations, describing options ranging from doing nothing to removing the trees. A discussion of the recommendations followed. Wally Mark suggested the following recommendations:

- ◆ Extensively sample the two trees, the buffer trees and a statistically valid number of trees in orchard
- ◆ Sample other high risk areas in El Dorado County, especially Christmas tree plantations
- ◆ Eradicate the two trees known to have harbored pitch canker (after sampling)
- ◆ Sample in other high risk areas and adjacent areas
- ◆ Request support for recommended actions
- ◆ Request funding to implement these actions, including support for research in areas of El Dorado County

Chairman Staub suggested that the Executive Committee take these recommendations and draft the document for the Task Force. Dave Wood stated that he would like to review the draft document before it is released. Chairman Staub noted that the document will be a range of recommendations and will not be a statement of the facts.

Steve Staub moved that the Task Force authorize the Executive Committee to take Wally Mark's recommendations and draft a document with recommendations for action. Tom Gordon seconded the motion, which passed unanimously.

Chairman Staub noted that there was not a quorum of members remaining at the meeting, so the elections of members to the Task Force cannot be accomplished. Chairman Staub noted that he will conduct an email election before the next meeting.

Richard Hawley stated that a press release from the Task Force could be put on line. Tom Gordon stated that he would be glad to write a short statement of facts about what happened. Mr. Hawley noted that he would circulate the press release to Task Force members once it is written.

Next Meeting

Next meeting should be Swanton Pacific Ranch. Chairman Staub will circulate possible dates from late August to mid September.

Meeting was adjourned at 3:45 p.m.

ACTION ITEMS

- ◆ Susan Frankel to investigate other sources for administrative service to the PCTF.
- ◆ Executive Committee of the Task Force to draft recommendations for response to pitch canker found in El Dorado County.
- ◆ Chairman Staub to conduct email elections for PCTF members that were up for election at February meeting.
- ◆ Chairman Staub to circulate dates in late August and mid September for the next PCTF meeting at Swanton Pacific Ranch.